

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A method of alleviating or preventing the accumulation of ammonia in an aquarium man-made aquatic medium comprising:

providing a bacterial strain that oxidizes ammonia to nitrite, wherein said bacterial strain comprises a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:1; and

introducing into the aquarium medium an amount of the bacterial strain sufficient to alleviate or prevent the accumulation of ammonia in the aquarium medium, wherein hybridization to SEQ ID NO:1 occurs under the following stringent conditions: hybridization in 30% formamide, 0.9 M NaCl, 0.01% sodium dodecyl sulphate, 20 mM Tris/HCl pH 7.4 at 46 °C, and washing with 120 mM NaCl, 5 mM EdTA, 0.01% sodium dodecyl sulphate, and 20 mM Tris/HCl at 48 °C.

2. (Original) The method of claim 1, wherein ammonia is reduced by at least 30% when compared with a level of ammonia that would exist in the absence of the bacterial strain.

3. (Currently amended) The method of claim 1, wherein the medium is an aquarium is a saltwater aquarium.

4. (Currently amended) The method of claim 1 3, wherein the aquarium is a freshwater aquarium.

5. (Withdrawn) The method of claim 1, wherein the medium comprises wastewater.

6. (Currently amended) The method of claim 1, wherein introducing into the aquarium medium an amount of the bacterial strain further comprises placing the bacterial strain into the aquarium medium on a rotating biological contactor.

7. (Currently amended) The method of claim 1, wherein introducing into the aquarium medium an amount of the bacterial strain further comprises placing the bacterial strain into the aquarium medium on a biofilter.

8. (Withdrawn) A method of alleviating or preventing the accumulation of ammonia in a medium comprising:

providing a bacterial strain that oxidizes ammonia to nitrite, wherein said bacterial strain comprises a nucleotide sequence selected from the group consisting of: a nucleotide sequence that has greater than 96% identity over the full length thereof to SEQ ID NO:18, a nucleotide sequence that has greater than 96% identity over the full length thereof to SEQ ID NO:19 and a nucleotide sequence that has greater than 96% identity over the full length thereof to SEQ ID NO:20; and

introducing into the medium an amount of the bacterial strain sufficient to alleviate or prevent the accumulation of ammonia in the medium.

9. (Withdrawn) The method of claim 8, wherein ammonia is reduced by at least 30% when compared with a level of ammonia that would exist in the absence of the bacterial strain.

10. (Withdrawn) The method of claim 8, wherein the medium is an aquarium.

11. (Withdrawn) The method of claim 10, wherein the aquarium is a freshwater aquarium.

12. (Withdrawn) The method of claim 10, wherein the aquarium is a seawater aquarium.

13. (Withdrawn) The method of claim 8, wherein the medium comprises wastewater.

14. (Withdrawn) The method of claim 8, wherein introducing into the medium an amount of the bacterial strain further comprises placing the bacterial strain into the medium on a rotating biological contactor.

15. (Withdrawn) The method of claim 8, wherein introducing into the medium an amount of the bacterial strain further comprises placing the bacterial strain into the medium on a biofilter.

16. (Currently amended) A method of alleviating or preventing the accumulation of

ammonia in an aquarium man-made aquatic medium comprising:

providing a bacterial strain that oxidizes ammonia to nitrite, wherein said bacterial strain comprises a 16S rDNA nucleotide sequence set forth in SEQ ID NO:1; and

introducing into the aquarium medium an amount of the bacterial strain sufficient to alleviate or prevent the accumulation of ammonia in the aquarium medium.

17. (Withdrawn) A method of alleviating or preventing the accumulation of ammonia in a medium comprising:

providing a bacterial strain that oxidizes ammonia to nitrite, wherein said bacterial strain comprises a 16S rDNA nucleotide sequence set forth in a sequence selected from the group consisting of SEQ ID NO:18, SEQ ID NO:19 and SEQ ID NO:20; and

introducing into the medium an amount of the bacterial strain sufficient to alleviate or prevent the accumulation of ammonia in the medium.

18. (Currently amended) A bioremediation process that alleviates or prevents the accumulation of ammonia in an aquarium man-made aquatic medium comprising:

providing a bacterial strain that oxidizes ammonia to nitrite, wherein said bacterial strain comprises a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:1; and

introducing into the aquarium medium an amount of the bacterial strain sufficient to remediate the aquarium medium, wherein hybridization to SEQ ID NO:1 occurs under the following stringent conditions: hybridization in 30% formamide, 0.9 M NaCl, 0.01% sodium dodecyl sulphate, 20 mM Tris/HCl pH 7.4 at 46 °C, and washing with 120 mM NaCl, 5 mM EdTA, 0.01% sodium dodecyl sulphate, and 20 mM Tris/HCl at 48 °C.

19. (Withdrawn) A bioremediation process that alleviates or prevents the accumulation of ammonia in a medium comprising:

providing a bacterial strain that oxidizes ammonia to nitrite, wherein said bacterial strain comprises a nucleotide sequence selected from the group consisting of: a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:18, a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:19 and a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:20;

and

introducing into the medium an amount of the bacterial strain sufficient to remediate the medium.

20. (Currently amended) A method of alleviating or preventing the accumulation of ammonia in an aquarium man-made aquatic medium comprising:

providing a composition comprising a bacterial strain that oxidizes ammonia to nitrite including a nucleotide sequence as set forth in SEQ ID NO:1 and at least one other bacterial strains that oxidizes ammonia to nitrite, wherein the at least one other bacterial strains has 16S rDNA including a nucleotide sequence independently selected from the group consisting of: a nucleotide sequence that has greater than 98% identity over the full length thereof to SEQ ID NO:3, a nucleotide sequence that has greater than 98% identity over the full length thereof to SEQ ID NO:4, a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:2, a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:18, a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:19 and a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:20; and

introducing into the aquarium medium an amount of the composition sufficient to alleviate or prevent the accumulation of ammonia in the aquarium medium, wherein hybridization of the 16S rDNA occurs under the following stringent conditions: hybridization in 20% to 30% formamide, 0.9 M NaCl, 0.01% sodium dodecyl sulphate, 20 mM Tris/HCl pH 7.4 at 46 °C, and washing with 120 mM to 215 mM NaCl, 5 mM EdTA, 0.01% sodium dodecyl sulphate, and 20 mM Tris/HCl at 48 °C.

21. (Previously presented) The method of claim 20, wherein the composition comprises a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:1, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:2, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:3, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:4, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:18, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID

NO:19 and a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in
SEQ ID NO:20.